

MANUFACTURING EXTENSION PARTNERSHIP

Success Stories from the Field

Donaldson Company Inc

Illinois Manufacturing Extension Center

Lean Solution Brings Work and Jobs Back to U.S. From Mexico

Client Profile:

Donaldson Company, Inc., is a worldwide provider of filtration systems and replacement parts. The company serves customers in the industrial and engine markets including dust collection, power generation, specialty filtration, compressed air purification, off-road equipment, industrial compressors, and the on-road markets for heavy trucks and light vehicles. Donaldson is a Minneapolis-based company with more than 9,000 employees and 34 manufacturing locations around the world. The Dixon, Illinois, facility employs 130 people.

Situation:

Citing the need to contain labor costs, in August of 2002 the Donaldson Company transferred work from its Dixon plant to one of its facilities in Mexico. At the same time, the global company was rapidly expanding a panel line used in cab filtration for the automotive and construction equipment industries and desired to consolidate production in one location. The Dixon facility, among the company's most productive and profitable, was selected to manufacture the panel filters. So, in an odd twist of fate, it required transferring work from Mexico to the U.S. The challenge for the Dixon plant leaders was how to handle the expected increase in costs. "The margins were already tight, and our labor rates were going to drive costs through the roof," said Tim Keyes, Plant Manager at the Dixon facility. "We knew we were likely to have cost issues with this transfer; the question was whether we could keep them tolerable. The Donaldson Mexico plant had done a good job with the panel product. Customers and sales people were happy."

The panel line was fairly automated, and capable of meeting the customer demands of quality, cost and delivery. Donaldson's answer to the cost challenge was to remove all of the waste and Lean it. "We had been hearing about Lean for quite a while. We actually were doing Lean projects, we just didn't call them Lean," said Keyes. "We looked at each task /activity on the panel line. If it didn't add value, we removed part of it or eliminated it completely. Once we got started, it began to snowball; and by the time we were done, our costs and productivity beat that of the Mexico plant." Keyes and his team looked to institutionalize the Lean process in the facility and turned to the Illinois Manufacturing Extension Center (IMEC), a NIST MEP network affiliate, for assistance.

Solution:

To build company-wide understanding and buy-in for its lean efforts, key Donaldson personnel participated in IMEC's signature Lean Simulation, assembling product in a "mock" factory, incorporating the various principles of Lean to cut waste and speed production time. Building upon that foundation, IMEC then worked with the Donaldson team to map the value stream of the production process, focusing in on key product lines for 5-S kaizen projects in which wasteful processes were identified and removed. The resulting changes boosted productivity in the panel line, and costs were trimmed to below those of the Mexico facility.

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Results:

- * Increased sales.
- * Retained jobs.
- * Hired 30 new employees.
- * Impact of over \$7 million in terms of sales, cost savings, capital spending and job creation/retention.

Testimonial:

"Through IMEC's expertise and resources, we are making Lean a way of life in the Dixon plant. We might have done this on our own, but we were concerned it would just fall off like so many of the other latest and greatest manufacturing schemes that we have all tasted. They've helped us establish a Lean culture; it's a very powerful tool, and we want to exploit its potential. If you're going to compete globally, you have to be able to contain your costs. We now look at everything in our processes to cut waste. We get raw material in when we need it and push product out the door."

Tim Keyes, Plant Manager